1978-09-22

Computer Center News Letter / September 22, 1978

Monterey, California, Naval Postgraduate School

Computer Center News Letter

NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA

September 22, 1978
Volume 10, Number 7

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IMPROVED CP/CMS TELECOMMUNICATIONS SUPPORT

The long-awaited modifications to the IBM 3705 Communications Controller have produced significant improvements in CP/CMS terminal support. Among the changes are:

1) all local CRT terminals now run at 1200 bps;
2) all local hard-copy terminals (Intertec) now run at 300 bps;
3) 8 dial-up 300 bps ASCII ports are now available;
4) number of IBM 2741 dial-up lines increased from 6 to 10.

On all of the ASCII lines, the Carriage Return key can be used in place of Control/'S' to signify end-of-line. Effective immediately the following phone numbers should be used to access the dial-up CP/CMS ports:

Service	Dial		# lines New	# lines Old
ASCII, 110 bps	x2611	No change	4	7
300 bps	x3025	New service	8	-
IBM 2741, 134.5 bps	x2701	No change	10	6

Remote 1200 bps users with leased phone lines should continue to call the Computer Operations Room (x2721) for a connection. We plan to install some dial-up 1200 bps service in the near future and one or two 4800 bps operator-controlled lines.

COMPUTER CENTER - HARD HAT AREA

We apologize to users for any inconvenience or irritation caused by the construction work - mostly demolition at present - underway in the classrooms adjacent to the computer room. Rooms 152, 153 and 155 are being converted into a secure laboratory for the Command, Control and Communications curriculum. As you can see, part of the work involves the re-routing of ventilation and air-conditioning ducting through the computer room. This required us to vacate Room 151 temporarily. The video terminals have been placed in Room 148, User Preparation Room. You've probably also noticed that the Computer Room looks a little different. The tape units that now block your view from the hot card reader were moved there to avoid downtime on the units during the construction work -- not to hide the operators!

USER SERVICES COMMITTEE

The following members of the Computer Council were recently appointed to the User Services Committee:

Prof. David Salinas, (ME), Chairman	x2586, Ro-213
Prof. Alex Gerba, (EE)	x2115, Sp-222
Prof. R. T. Williams (MET)	x2296, Ro-247
LCDR. M. L. Richardson, Student Rep.,	SMC 2553

The committee serves as a two-way communication link between the users and the providers of computing services on campus. They will listen to and investigate any problems that users encounter. The committee supplements the normal channels of communication with the Center e.g. individual staff, managers, newsletter, and suggestion box. Please communicate your ideas, criticisms, complaints or suggestions for improved or new services. The committee members want to hear from you.

USER SERVICES TALKS FOR FALL QUARTER

Six different talks will be offered during this quarter to assist users of both of our operating systems. If you are interested in attending any session, assure yourself a seat by signing up on the appropriate sheet posted in In-146, the Consultation Office. Please do so at least 48 hours before the scheduled time. Tentatively, each talk will be given in In-163, the Center's Conference Room. If you sign up, we shall let you know if the location is changed or if the talk is cancelled due to lack of interest.

1. INTRODUCTION TO CP/CMS

Wednesday, 11 Oct at 1510
Speaker: Lloyd Nolan

Topics to be covered include: log-on procedures; types

of users, system modes or environments; use of the editor; entering, editing, compiling and running a Fortran program; rudimentary debugging at the terminal; and miscellaneous handy commands. This talk is intended for the beginner.

2. INTRODUCTION TO JOB CONTROL LANGUAGE

Monday, 16 Oct at 1510
Speaker: Sharon Raney

This talk deals with the various types of job control statements, their purposes and formats. It is intended for anyone who wants to understand the relationship between job control language, the user's program and the operating system (OS/MVT).

3. INTRODUCTION TO SPSS

Wednesday, 18 Oct at 1510
Speaker: Lloyd Nolan

The speaker will describe the Statistical Package for the Social Sciences and show how conveniently it can be used for any statistical analysis. Topics include general problems of data analysis, levels of measurement, cause/effect relationships, and efficiency hints. Examples of actual usage, including required job control language, will be shown. This talk is intended for any user who wants to use our system for statistical analysis.

4. INTERMEDIATE TOPICS IN CP/CMS

Monday, 23 Oct at 1510 and
Wednesday, 25 Oct at 1510
Speaker: Roger Hilleary

This two-session talk describes and demonstrates how to make the most of allocated resources, use of exec files, how to share files, file definitions and manipulations, intermediate debugging techniques and use of text libraries. It is intended for time-sharing users who have learned the basics and are now ready for more advanced usage.

5. CONVERTING TO THE VERSATEC PLOTTER

Monday, 28 Oct at 1510
Speaker: Sharon Raney

This talk will describe the capabilities of the Versatec plotter, the differences between the CalComp plotter software and the Versatec software, how to convert routines which run on the CalComp to run on the Versatec plotter, and the electrostatic features of the Versatec software.

OS JOBS, NAMES AND NUMBERS

Users are reminded that they are entitled to have no more than three jobs in the system at any one time. Each of these three jobs must have a different name. Jobs with duplicate names will be cancelled.

CALCOMP PLOTTER REMOVED

On Sunday, October 1, the one remaining CalComp plotter was removed from operation. All plots are now being generated on the Versatec printer/plotter.

Users who are still using cataloged procedures ending in P (FORTCLGP, LGOP, etc.) to generate off-line plots will now automatically receive Versatec output. Users who use those cataloged procedures only to obtain punched card output (from unit 7) should remove the P. Punched card output is now available with most of the standard cataloged procedures (FORTCLG, LGO, FASTFORT, etc.). The standard library subroutines using off-line plotting (DRAW, DRAWP, CONTUR, PLT3D1) are only available using cataloged procedures ending in P or V. In the near future they will be converted to use the Versatec software directly and these versions will be available using cataloged procedures ending in W.

A complete discussion of cataloged procedures using the various plotter options (i.e. CalComp-to-Versatec interface and Versatec software) will be published in the next newsletter.

Users experiencing problems with the changeover from the CalComp plotters should contact Sharon Raney, x2672, In-102A.

SPACE USAGE ON PUBLIC 3330 DISK PACKS

The Center currently has two 3330 disk packs available for temporary public disk storage. Data sets stored on these two disks (DISK03 and DISK04) are scratched on the Sunday following graduation each quarter. Thus, the longest period a data set can be stored on them is one quarter.

Despite the fact that data sets are automatically scratched at the end of each quarter, users should take care to allocate only as much space as is actually needed and to scratch any unneeded data sets. At the end of last quarter (Summer), these two packs were 97 per cent full, with 194 megabytes reserved. A good portion of these data sets had sizeable amounts of unused space or were not even being used.

The following steps should be taken to avoid wasteful use of disk space. These hints apply to any disk drives.

1. Use the RLSE subparameter when allocating space, e.g.

```
SPACE=(TRK,(10,1),RLSE)
```

RLSE allows the user to overestimate the amount of space needed, and the surplus space will be released whenever the data set is closed.

2. Scratch any unneeded data sets promptly.

a. Non-date-protected data sets (no LABEL parameter used when the data set was created) can be deleted using the following job control language:

```
//  (Standard green JOB card)
//  EXEC  PGM=IEFBR14
//DD1  DD  UNIT=3330,VOL=SER= DISK03 ,DISP=(OLD,DELETE),
                            DISK04
//     DSN=data.set.name
/*
```

b. Date-protected data sets can be deleted using the following job control language:

```
//  (Standard green JOB card)
//  EXEC  PGM=IEHPROGM
//SYSPRINT  DD  SYSOUT=A
//DD1  DD  UNIT=3330,VOL=SER= DISK03 ,DISP=SHR
                            DISK04
//SYSIN  DD  *
ΔSCRATCHΔVOL=3330= DISK03 ,DSNAME=data.set.name,PURGE
                   DISK04
/*
```

3. Determine amount of space a data set actually uses with the following job control language:

```
//  (Standard green JOB card)
//  EXEC  IEHLIST
//SYSPRINT  DD  SYSOUT=A
//DD1  DD  UNIT=3330,VOL=SER= DISK03 ,DISP=SHR
                            DISK04
//SYSIN  DD  *
ΔLISTVTOCΔFORMAT,VOL=3330= DISK03 ,DSNAME=data.set.name
                           DISK04
/*
```

Articles in future issues of the newsletter will address such topics as releasing space from existing data sets and data set naming conventions.

SPSS RELEASE 8A UPDATE

The test version of release 8 of the Statistical Package from the Social Science which was announced in the last Newsletter has not yet arrived. It has been delayed for an unspecified period of time. Meanwhile, it is being used on a daily basis at the University of Chicago, which means that the version we get to test should be free of nasty surprises for our users.

When this new version has been installed a notice will be posted in In-146, the Programming Consultant's office.

SPSS USAGE - SPRING QUARTER

Have you wondered if anyone else is using SPSS? During Spring Quarter of this year SPSS was used on 84 days out of 95. There were 2714 job steps run, and of these, 697 jobs had errors. A total of 563.4 minutes of CPU time was used.

The procedure "Write Cases" took the most CPU time (78 minutes), followed by Breakdown, Regression, Scattergram and CrossTabs.

The total number of control cards fell just under 48,000. The average number of cases per job was 1123, with a range of 2 to 78,000. The average job also had 48.2 cases and required 0.21 minutes of CPU time.

WATFIV COMPILER

A new WATFIV Compiler (Version 1, Level 7) has recently been implemented at the Center. This new compiler now supports the concept of structured programming with the addition of the following statements:

IF-THEN-ELSE
WHILE-DO
DO-CASE
EXECUTE and REMOTE BLOCK
WHILE EXECUTE
AT END DO

To use the new version of WATFIV, a cataloged procedure named WATFIVS has been established. The following JCL illustrates the new cataloged procedure.

```
//  (Standard green JOB card)
//  EXEC  WATFIVS
//SYSIN  DD  *
$JOB
       your program deck
$ENTRY
       your data deck if any
$$
/*  (orange)
```

Note: The $GO card has been replaced by the $ENTRY card.

Users interested in the structured programming features of this new version of WATFIV should refer to the book Fundamentals of Structured Programming Using Fortran with SF/k and WATFIV-S, by R. C. Holt and J. N. P. Hume.

The old version of WATFIV will be accessible through the WATFOR, WATFORC and WATFORG cataloged procedures until the end of this year. Beginning in January only the new version will be available.

NEWSLETTER ARTICLES ANYONE?

All users of the Computer Center are reminded that this is their newsletter. Articles or suggestions for articles may be submitted by any user. Also if you have any item that may be of interest to other users, please send it to Roger Hilleary, Code 0141 or telephone x2752.

INTERACTIVE IODE

A user of the Interactive Ordinary Differential Equation program (IODE) on CP/CMS recently reported a difficulty when he interrupted execution by using the 'kx' command. After the 'kx' he was unable to recover the specifications of the interrupted problem. We have not determined the cause of this malfunction, but suggest the following sequence of commands to avoid it:

```
kx
closio
login 199 b
exec iode r
```

Any CP/CMS user may obtain a printed copy of the IODE documentation by issuing the following commands:

```
cp link 0302p 191 199 pass=^iode
login 199 b
iodedoc
```

Anyone with questions about IODE should call Roger Hilleary, In-133, x2752.

WATBOL/COBOL USERS' GUIDE

A new edition of TN0141-11 has recently been issued by the Center. The full ANS Cobol Compiler and WATBOL, a smaller student version, are discussed in the context of their implementations at NPS. Copies of this technical note are available in In-146, the Consultant's Office. Its author is Lois Brunner.

ADDITION TO SUBROUTINE LIBRARY

J5-PLOTG General Purpose Line/Print Plotting Routine using Versatec Plotter

Subroutine PLOTG has recently been added to the Center's source library and the load module library, SYS1.MPSLIB. PLOTG is a general purpose line and/or point plotting subroutine. Graphs are plotted on the new Versatec electrostatic plotter. Special features of PLOTG include: "sensible" scaling (the scale for each axis is computed as 1, 2, 2.5, or 5 times a suitable power of ten; the minimum value is not always zero), overplots, clipping of data outside axis limits, and axis labeling.

Interested users should use the PRTPUNCH utility (shown below) to obtain a listing of the usage instructions for PLOTG.

```
//  (Standard green JOB card)
//  EXEC  PRTPUNCH
//SYSIN  DD  *
PLOTG
/*  (orange)
```

ADDITIONAL PRINTER PLOT ROUTINE UNDER CP/CMS

The printer plot routines PLOTP/DPLTP and UTPLOT in SSPLIB direct the plot output to FILE FT06F001 (the terminal console).

To satisfy several user requests, the Center has recently added modified versions of these routines to SSPLIB. Subprograms PLOT8/DPLT8 and UTPLT8 operate exactly the same as PLOTP/DPLTP and UTPLOT except they direct the plot output to FILE FT08F001. To obtain a printed listing of the plot issue the command:

```
O PRINTCC FILE FT08F001
```

N.B. This file cannot presently be directed to the printer using the FILEDEF command.

RECENT ADDITIONS TO THE COMPUTER CENTER LIBRARY

Books

Author	Title
Wulf, William	Design of an Optimizing Compiler
Down, P. J.	Why Distributed Computing?
Allan, J. J. III, editor	CAD Systems
Van Bemmel, J. H., editor	Trends in Computer-Processed Electrocardiograms
Lockemann, P. C., editor	Systems for Large Data Bases
Gilchrist, B., editor	Information Processing '77
Fujita, Y. et al, editors	Computer Application in Shipping and Shipbuilding Vol 1: Ship Operation Automation 2: Automation of Shipyard Operation & Ship Design
Frielink, A. B., editor	Economics of Informatics
Machol, Robert E.	Management Science in Sports
McCracken, Daniel	Guide to PL/M Programming for Micro-Computer Applications
Marshall, Kneale T.	OR/MS Index (1952-1976)
Argyris, J. H.et al, editors	Computer Methods in Applied Mechanics & Engineering Vol. 8 (1 & 2)

Reports

No.	Title	Author/Organization
1321	Probability Models for Multiprogramming Computer Systems	Gaver, D. P. Jr

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VACANCY - MANAGER, SYSTEMS PROGRAMMING

The Computer Center is looking for an exceptional person to be Manager, Systems Programming, leading a group of 5 - 6 experienced programmers responsible for all systems software. Present service is based on OS/MVT (for batch-processing) and CP-67/CMS (for time-sharing) on a duplex IBM 360/67 configuration. This system is scheduled to be replaced in early 1980 by a more powerful computer which will be the central node of a campus computer network. (The School also has ARPANET access via an in-house TIP). The job offers a rare opportunity to a dynamic, talented individual to become involved from the beginning with the specification, selection and installation of a multi-level computing network for academic computing in the 1980s.

Working conditions aren't bad either -- the School is located on beautiful grounds on the Monterey Peninsula, 120 miles south of San Francisco.

This is a Federal Civil Service position at the GS13 level. Salary range is $27,000 to $35,000. College degree is required but academic background is secondary to solid experience and demonstrated success as a leader or senior member of a systems support group. It is expected that candidates will have already spent 4-5 years as leader or senior programmer in a systems group in the university environment.

Please rush your resume to Prof. Doug Williams, Director, Computer Center, Naval Postgraduate School, Monterey, CA. 93940. (Telephone (408) 646-2572)

The Naval Postgraduate School is an equal opportunity employer.

The Newsletter appears semiquarterly and is written by members of the staff, W. R. Church Computer Center (Code 0141), Naval Postgraduate School, Monterey, California 93940. Requests for further information or suggestions on articles for the Newsletter may be addressed to the User Services Manager, Code 0141 (In-133), x2752 (or x2573 for messages).

The Center provides batch-processing service under IBM 360/Operating System (OS/MVT/HASP, Release 21.8) and time-sharing service under CP-67/CMS, Version 3.2. These services are based on a dual-processor IBM 360 Model 67 system with 2.0 megabytes of core storage.

Distribution

List 3, plus: 1-A5, 125-B2, 3-B3, 1-B13, 3-F3, 1-F4, 1-F5, 1-F6, 60-Student Mail Center (Lobby)